




# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/087,806	03/05/2002	Shinya Yamakawa	1075.1191	2980
21171	7590	02/24/2005	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			WANG, QUAN ZHEN	
			ART UNIT	PAPER NUMBER
			2633	

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/087,806	<b>Applicant(s)</b>  YAMAKAWA, SHINYA	
	<b>Examiner</b> Quan-Zhen Wang	<b>Art Unit</b> 2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,12-14,17-18, 21-22 and 27-29 is/are rejected.
- 7) ☒ Claim(s) 2-11,15,16,19,20,23-26 and 30 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities:

“controlling” in line 25, page 32 is redundant.

“controlling” in line 20, page 49 is redundant.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 17-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Amoruso (U.S. Patent US 6,359,729 B1).

Regarding claim 1, Amoruso teaches a WDM (Wavelength Division Multiplexed) transmission system (fig. 3), comprising: a plurality of WDM optical networks (fig. 3, optical network on the left hand side of the figure; and optical network on the right hand side of the figure; column 1, lines 34-45), each of the WDM optical network including an optical signal receiver (fig. 3, receiver 28), and an optical signal transmitter (fig. 3,

Art Unit: 2633

transmitter 20), communicably connected to the optical signal receiver, for transmitting, to the optical signal receiver, a WDM signal having a plurality of optical signals at respective different wavelengths (column 1, lines 18-23; column 1, lines 34-45) with adjusting each of intensities of the plural optical signals by performing preemphasis ("control of signal laser power", column 7, lines 18-24); and a central controller (fig. 3, NM), communicably connected to the plural WDM optical networks via a plurality of monitor/control lines respectively (fig. 3, connection lines between NM and the optical networks at the bottom), including: variation factor monitoring means (column 1, lines 54-56) for monitoring one or more variation factors which requires a new setting for the preemphasis performed by the optical signal transmitter of each the WDM optical network via a respective one of the plural monitor/control lines; and preemphasis controlling means (column 7, lines 18-33) for controlling a status of the preemphasis by adjusting the setting for the preemphasis performed by the optical signal transmitter (column 7, lines 28-33) of each the WDM optical network via the respective monitor/control line based on the result of the monitoring carried out by the variation factor monitoring means (column 1, lines 54-65).

Regarding claim 17, Amoruso further teaches that variation factor monitoring means of the central controller further includes signal-quality-information collecting means ("performs monitoring", column 1, lines 54-56), threshold-value-information retaining means (column 8, lines 10-12), and signal-quality monitoring means (column 1, lines 54-56).

Regarding claim 18, it is inherent that the signal-quality-information collecting means periodically collects the signal quality information.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amoruso (U.S. Patent US 6,359,729 B1).

Regarding claim 12, Amoruso further teaches that the system further includes the-number-of-wavelengths-information collecting means ("wavelength management", column 1, lines 54-59). Amoruso differs from the claimed invention in that Amoruso does not specifically teach that the system further includes the amount-of-preemphasis computing means. However, Amoruso teaches to perform preemphasis ("laser signal power control", column 7, lines 18-24). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to include the amount-of-preemphasis computing means in the system in order to properly control the preemphasis.

Regarding claims 13, Amoruso further teaches that variation factor monitoring means of the central controller further includes signal-quality-information collecting means ("performs monitoring", column 1, lines 54-56), threshold-value-information

Art Unit: 2633

retaining means (column 8, lines 10-12), and signal-quality monitoring means (column 1, lines 54-56).

4. Regarding claims 14, it is inherent that the signal-quality-information collecting means periodically collects the signal quality information.

5. Claims 21-22, 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amoruso (U.S. Patent US 6,359,729 B1) in view of Zhou et al. (U.S. Patent US 6,456,409 B2).

Regarding claim 21, Amoruso teaches a central controller (fig. 3, NM), which is communicably connected, via a plurality of monitor/control lines respectively (fig. 3, connection lines between NM and the optical networks at the bottom), to each of a plurality of WDM (Wavelength Division Multiplexed) optical networks (fig. 3, optical network on the left hand side; and optical network on the right hand side; column 1, lines 34-45), each of the WDM optical network including an optical signal receiver (fig. 3, receiver 28) and an optical signal transmitter (fig. 3, transmitter 20), communicably connected to the optical signal receiver, for transmitting, to the optical signal receiver, a WDM signal having a plurality of optical signals at respective different wavelengths (column 1, lines 18-23; column 1, lines 34-45) with adjusting each of intensities of the plural optical signals by performing preemphasis ("control of signal laser power", column 7, lines 18-24), the controller comprising: variation factor monitoring means (column 1, lines 54-56) for monitoring one or more variation factors. Amoruso differs from the claimed invention in that Amoruso does not specifically teach that the controller

comprising preemphasis controlling means for controlling a status of the preemphasis by adjusting the setting for the preemphasis performed by the optical signal transmitter of each of the WDM optical networks via respective one of the plural monitor/control lines based on the result of the monitoring carried out by the variation factor monitoring means. However, Zhou discloses a WDM system with a controller comprising preemphasis controlling means (column 1, lines 61-64), for controlling a status of the preemphasis by adjusting the setting for the preemphasis performed by the optical signal transmitter (column 1, 64-67 and column 3, lines 1-5) of each of the WDM optical networks via respective one of the plural monitor/control lines based on the result of the monitoring carried out by the variation factor monitoring means (column 1, lines 64-67 and column 2, lines 1-5; column 2, lines 66-67 and column 3, lines 1-9). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate the method and apparatus for preemphasis, as it is taught by Zhou, in the system of Amoruso in order to compensate for unequal channel performance to further increase the signal transmission distance.

Regarding claim 22, Amoruso teaches a WDM transmission system comprising a plurality of WDM networks (fig. 3, optical network on the left hand side of the figure; and optical network on the right hand side of the figure; column 1, lines 34-45), each of the WDM optical networks including an optical signal receiver (fig. 3, receiver 28) and an optical signal transmitter (fig. 3, transmitter 20), communicably connected to the optical signal receiver, for transmitting, to the optical signal receiver, a WDM signal having a plurality of optical signals at respective different wavelengths (column 1, lines 18-23;

Art Unit: 2633

column 1, lines 34-45), with adjusting each of intensities of the plural optical signals by performing preemphasis ("control of signal laser power", column 7, lines 18-24), and a central controller (fig. 3, NM) communicably connected to each of the plural WDM optical networks via a plurality of monitor/control lines respectively (fig. 3, connection lines between NM and the optical networks at the bottom). Amoruso differs from the claimed invention in that Amoruso does not specifically teach the steps of controlling a preemphasis in the WDM system. However, Zhou discloses a method for controlling preemphasis in a WDM system comprising the steps of: at the central controller (fig. 6, NMS 622) (a) monitoring one variation factor ("OSNR", column 1, lines 64-67 and column 2, lines 1-5) which requires a new setting for the preemphasis performed by the optical signal transmitter (column 1, lines 64-67 and column 2, lines 1-5); and (b) controlling a status of the preemphasis performed by the optical transmitter (column 1, lines 64-67 and column 2, lines 1-5) inherently via a respective one of the plural monitor/control lines based on the result of the monitoring in the variation factor monitoring step (a). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate the method and apparatus for preemphasis, as it is taught by Zhou, in the system of Amoruso in order to compensate for unequal channel performance to further increase the signal transmission distance.

Regarding claim 27, the modified system of Amoruso further teaches to monitor the change in the number of wavelengths used for optical signals ("wavelength management", column 54-59); and Zhou further teaches computing the amount of



preemphasis (column 11, lines 1-16); and controlling the intensities of optical signals in a WDM signal that is to be transmitted (column 1, lines 64-67 and column 2, lines 1-5).

Regarding claim 28, Zhou further teaches to monitor the signal quality information ("OSNR") and controlling the intensities of optical signals in a WDM signal that is to be transmitted (column 1, lines 64-67 and column 2, lines 1-5).

Regarding claim 29, Zhou further teaches to monitor the signal quality information of one of the plural WDM optical networks (column 11, lines 6-9); and controlling the intensity of optical signals if the result of monitoring is positive (column 11, lines 8-16).

#### ***Allowable Subject Matter***

6. Claims 2-11, 15-16, 19-20, 23-26, and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 2-11 and 23-26 are allowable since prior art of record does not teach or suggest in combination that variation factor monitor means includes elapsed-time monitoring means for monitoring, as one of variation factors, whether or not a predetermined time period has passed since an initialization of a first optical signal transmitter, which is the optical signal transmitter of one of the plurality WDM optical

networks based on the time information stored in the storing means, in addition to the other limitations recited in claims 2-11 and 23-26.

Claims 15-16, 19-20, are allowable since prior art of record does not teach or suggest in combination that variation factor monitoring means of the central controller further includes alarm-information receiving means for receiving, as one of the variation factors, alarm information of an alarm issued over the WDM signal transmitted on each WDM optical network and the signal-quality-information collecting means starts, upon receipt of the alarm by the alarm receiving means, the collecting of the signal quality information of the WDM signal transmitted in each optical network which issued the received alarm information, and in addition to the other limitations recited in claims 15-16, 19-20.

Claim 30 is allowable since prior art of record does not teach or suggest in combination that variation factor monitoring step including the step of receiving, as one of the variation factors, alarm information about an alarm issued over the WDM signal transmitted in each of the plural WDM optical networks; and collecting, upon receipt the alarm information in the alarm receiving step, the signal quality information of the last-named WDM signal.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

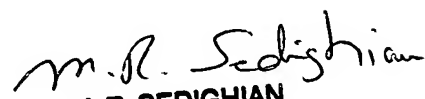
Fee et al. (U.S. Patent US 5,956,165) disclose an optical communication system employing a network management system for updating the ancillary network data contained in a modulated optical data signal.

Weston-Dawkes et al. (U.S. Patent Application Publication US 2003/0215231 A1) disclose an optical transmission system having a central network management system to manage, configure, and control optical components in the system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quan-Zhen Wang whose telephone number is (571) 272-3114. The examiner can normally be reached on 9:00 AM - 5:00 PM, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**M. R. SEDIGHIAN**  
**PRIMARY EXAMINER**